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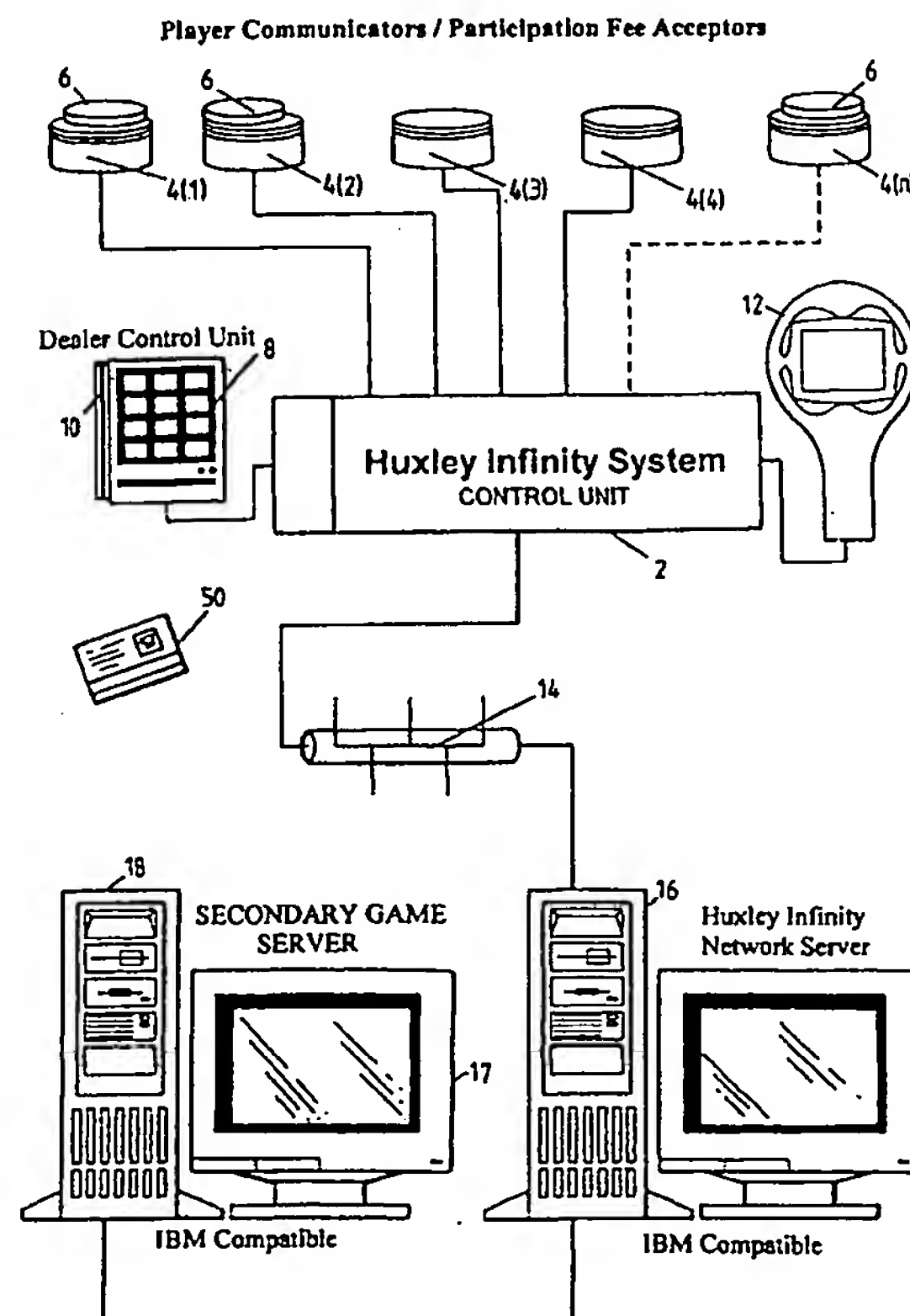
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(57) Abstract

In a secondary game operating alongside a primary game or games, and in which the outcome of the secondary game is independent of the outcome of the primary game or games, a first determination is made to determine whether a prize or prizes will be awarded and the amount of the prize, and a second determination is made to determine a winner or winners of the prize among participants in the secondary game.



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Casino Games and Gaming Apparatus

W099/42186 describes a secondary game designed to operate in parallel with one or more primary (or host) casino live table games and electromechanical devices (e.g. roulette, blackjack and slot machines). The outcome, operation and funding of the secondary game are independent of the primary game(s).

In comparison to the host game, the secondary game cycle (or coup) is preferably very short. In cases where many tables are connected to the network which operates the secondary game, it may take the secondary game only a few milliseconds to complete a game cycle - that is to determine a winner. Hence, it is possible to run a secondary game cycle during each primary game cycle at a number of tables, even though the primary games of the tables are not synchronised. If a primary table game is not "caught" in one cycle of the secondary game, then it will be caught in a subsequent cycle before the primary game is completed.

Bona fide players (i.e. players playing the primary game) are invited to participate in the secondary game cycle. Player participation could also be mandatory. Players may "enter" the secondary game by means of a player loyalty card and the payment of an entry wager or participation-fee or wager. Once the participation-fee has been collected and the entry confirmed by the dealer, the player is eligible to be included in the next secondary game cycle.

A token representing the participation-fee is placed on a participation fee acceptor or inserted in the slot of a slot machine or an amusement with prizes (AWP) machine, at the appropriate place proximate to the player's position. A slot machine is generally considered to be a casino type machine which complies with International Gaming Standards, for example as to quality of manufacture, is compatible with on-line data retrieval systems and has no limit on stake and award. An AWP or low payout machine is generally used for street or rout operation in areas which have a maximum stake and award. The participation fee acceptor may also "double up" as an award or

prize indicator. The preferred unit contains several concentric rings (e.g. 3) of various colours (e.g. Red, Blue, and Green) embedded in the gaming table.

It will be appreciated that the player may pay a fee by means of a smart card, debit card or the like. The participation fee acceptor can be arranged to communicate between the player and the system, such as, for example, the illuminated acceptor of WO 99/42186. The present invention is concerned with providing a system to determine a pay-out of the secondary game, and selection of a winner of the game.

Any scheme for determining the outcome of a casino game needs to satisfy the criteria of being fair to the player while making it reasonably likely that the casino or "house" will take a small percentage of the game participation fees - similar to the house advantage in roulette, for example. In the case of a secondary game, the casino may choose to weight the odds in favour of the player since the secondary game is primarily intended as a promotional tool. If the secondary game is operated simply as a pool betting system, with winners being paid only according to the size of the pool, it is difficult to provide a game which is attractive to players - since there is little attraction playing the game while the pool builds. It is possible to provide a lottery in some jurisdictions, but with a guaranteed level of payment it would carry a risk of financial loss for a casino beyond the normal gaming risks.

In connection with commercial activities particularly gaming, it is known to provide players with loyalty cards (also called player tracking cards) which include machine readable elements. When a player plays a slot machine or table game, the card is read and the player's play, i.e. wagering levels, buy-ins and the like, are tracked and the data is sent to a central player tracking data base. From the data collected over time a player can be rated. This rating may be expressed or stored as points, theoretical win profile (TWP) or the like. For example, a player who bets frequently in large amounts would have a higher rating than a small denomination, infrequent, player. Other data may factor into a rating such as other expenditures at the casino including lodging, meals, souvenirs or the like. Highly rated players are prized by casinos and promotions are often geared to instilling loyalty between particularly these players and the casino.

A first aspect of the present invention provide a secondary game which runs alongside a primary game or games, in which the outcome of the secondary game is

independent of the outcome of the primary game or games, and in which it is determined in accordance with a first algorithm whether a prize will be awarded, and the winner of the prize is determined in accordance with a second algorithm.

Entry into the secondary game is closed to additional participants at a selected time. Each entry or participation fee provides the participant with a chance to obtain an award from the play of the secondary game independent of whether or not they win during play of the primary table game or slot machine.

The method includes identifying each participant in the secondary game at closure, the participants defining a universe of players participating in the secondary game. Identification may be by means of a loyalty card inserted into a card reader at the participants position or table or machine and/or by identifying the player's location by table and seat.

Once the secondary game is closed, the method includes, for the secondary game, selecting a winning or losing outcome. The secondary game outcome may be selected by a variety of means. If the outcome is a winning outcome the method includes determining a prize to award and at least one participant from the universe of participants to award the prize to.

By providing separate algorithms to determine whether a prize is awarded and to determine the winner of the prize, it is possible to configure the game so that it is fair and attractive to players, while providing an appropriate degree of security, or risk, for the casino.

The first algorithm can be selected from one of many known algorithms. For example, a simple slot machine type algorithm may be used to provide a range of prizes or pay out values, and the probability of a win is dependent on the number of reels, the number of reel "stops" and the distribution of symbols on the reels. The algorithm can be, in effect, a game which is run in "virtual reality" by a computer. The computer may emulate, mimic or simulate the game cycle of, for example, a slot machine, a hand at a card game, a spin of a roulette wheel, etc.

The second algorithm may be a simple random number generator to select a winner from the participating players.

It will be appreciated that the algorithms may be operated independently. If the algorithms are designed to always select a player - the winner - but to produce a payout intermittently, the casino may choose whether to announce the "winner" first, so that attention is focused on that player, and to announce the pay-out (if any) second.

When a large number of players is participating in the secondary game, it may be desirable to ensure a pay-out at more frequent intervals than when only a few players are participating, so that players have a more equal chance of winning at any time. The first algorithm may include a factor dependent on the number of players and or the number of gaming tables or slot machines, etc., participating in a cycle of the secondary game. For example, in the case of a slot machine type algorithm for the first algorithm, the reels may be "spun" a number of times in each game cycle or coup, dependent on the number of players to generate several chances of a win or pay-out in a single secondary game cycle.

In one preferred form, the invention will provide a payout frequency, i.e. number of payouts, of about one payout per fourteen participants per cycle. This would approximate to a payout frequency of once per two primary games for a gaming table such as roulette or blackjack (assuming that players of the primary game take part in only one secondary game cycle during each primary game cycle). Thus if there are two tables side by side, it can be estimated that there is a secondary game winner at the frequency of the primary games.

In a particularly preferred form, the first algorithm is run once, and the payout (if any) is then awarded to a number of players, chosen by the second algorithm and dependent on the number of players and/or tables. In the case of a high payout or 'jackpot', this could be awarded to only a single player. In this way the frequency of payouts is readily predicted from the first algorithm, without being dependent on the number of players.

The winner or winners of the secondary game payout may be selected entirely at random from the participating players. However, to improve the promotional aspects of the game, it is preferred that the second algorithm include a factor which is dependent on the individual player.

In particular, a player may be given an enhanced chance of winning in accordance with certain criteria personal to the player such as the player's spend that evening, the player's frequency of attending, the player's theoretical win profile (TWP), the player's preferred game, minimum table stake or limit at the player's location at a table or game type, and his time there, a dealer's assessment of the player's worth, information 'unique' to a player - such as whether it is his birthday etc. The criteria can be established and rated by the casino to attribute a player-worth or bonus point value.

If the second algorithm is configured as a random selection from a list of participating players, then the enhanced winning chance can be achieved by attributing to the player a number of entries in the list, dependent on the player-worth. A player with a relatively high player-worth will be awarded several entries in the list for that secondary game cycle, despite paying only a single participation fee.

In another preferred form, the players can be grouped according to their 'player-worth' or player loyalty points, and a selection made from each group. Preferably the running and result of one or both algorithms is represented graphically to the players. In the case of the first algorithm, this could be a graphical representation of slot machine reels spinning to arrive at the result of the game. It could be a real time simulation, showing the result itself as it is calculated by the computer, or a pre-recorded simulation to arrive at a result which has already been determined.

As mentioned, the first algorithm may be based on other games of chance, such as blackjack or roulette, where the odds of a pay-out are readily determined, or some other algorithm may be chosen or developed. Given the "virtual reality" or computer simulation system which is, most preferably, used, it is possible to combine known games in the first algorithm, or to select from a range of games when running the algorithm. A simple random number generator (RNG) could also be used.

As stated above, the method can be configured to use a first algorithm or RNG to select the second game outcome and a second RNG to select the player. The player selection can be weighted based upon a determined player worth. In another embodiment, each participant has their own outcome and prize selected by random means such as a slot machine type of outcome determiner. The system and method would, for each player, select a winning or losing outcome and prize during each game

cycle. In still another embodiment, participants may be grouped by location in the casino, player worth or the like, and for each group an outcome and prize is selected.

In yet another embodiment, each participant may be assigned a payline on a virtual or displayed slot machine. If there are too many participants, participants may be grouped to separate machines. Upon closure of the game, the machine would select an outcome for payline and issue a combined award to the participants or each participant who had a winning outcome. By sharing the prize, players would be motivated to urge other players to participate to increase the chances of obtaining a shared prize.

The system includes a secondary game processor and each primary game linked to the game processor for a player to register an entry into the secondary game. The game processor in response to sensing an entry stores data to identify the participant in the secondary game. The game processor has means for issuing a signal to close the secondary game to receiving additional participants entering the game and for selecting an outcome for the game, an award and from said participant identification data at least one player to receive said award. As with the method, the system can use any one or more techniques for producing an outcome(s), prize(s) and player(s).

The invention has thus far been described in relation to a secondary game of the type found in W099/42186 where the outcome of the game, i.e. the pay-out and the winner are independent of the primary game. It will be appreciated that the invention also has application in secondary games in which the outcome is related to the primary game, such as described in US 4 861 041. In the '041 patent, the secondary game participation fees form a jackpot and a player with a pre-selected hand wins a portion of the jackpot.

In EP-A-787 026 a winning player is selected in one of a number of ways, and paid a proportion of the progressive jackpot which is accumulated as the secondary game progresses.

In accordance with a second aspect of the present invention, there is provided a secondary game in which a winner of the secondary game is determined by a criterion dependent on the primary game, and the winner is awarded a prize or pay-out based on

an algorithm which is independent of the primary game and independent of the total amount wagered by players in the secondary game.

The invention will be further described by way of example with reference to the accompanying drawings, in which :

Figure 1 illustrates an embodiment of a game apparatus in accordance with the invention;

Figure 2 is a flow chart illustrating the operation of a first embodiment of the invention;

Figure 3 is a flow chart illustrating a sequence of operations at a gaming table; and

Figure 4 illustrates the selection of a winner according to one of a plurality of second, winner selection algorithms.

Referring to figure 1, a game apparatus of the invention comprises a "client" PC or CPU 2 which is located at a gaming table, such as a blackjack or roulette table. A plurality of participation fees acceptors 4 are connected to the CPU 2. Although the drawing shows only five, a participation fee acceptor is provided for each player position, typically 7 or 8 for a Blackjack table, 8 or 10 for roulette, etc. Each acceptor 4 incorporates a sensor for sensing placement of a chip 6 by a player to indicate that the player wishes to participate in the secondary game. The acceptor transmits a signal to the CPU 2 to indicate placement of the bet, and is also triggered by the CPU 2 to illuminate various indicators to show (a) that a fee can be placed; (b) that a fee has been accepted, and (c) that the player is a winner of the secondary game. For this purpose each acceptor 4 may have one or more light panels or may be embodied as a visual or video display. The indicators may be colours, displays, graphics and/or sounds.

A dealer keypad 8 is provided to allow the dealer or croupier to input information to the CPU 2. Such information will include swiping a player loyalty card 50 in a slot 10 to identify the player and keying in the player position (1 through 5 in the illustrated embodiment). The dealer may also input additional information, for example to indicate when the table is ready to participate in the secondary game (vide hereinafter) and to provide additional information about a player, for example the player's current wagering activity in the primary game.

A slot unit may be provided to retain a player loyalty card while the player is at the table. The dealer (or player) simply inserts the card in the slot, which detects and reads the card. The card is withdrawn when the player leaves the table.

For slot machines or AWP machines, each is provided with a card reader to read the player's card 50, access the player's account and identify the location of the player by the machine they are playing.

A display unit 12 displays the result of the secondary game, and may display other information such as described in W099/42186.

A plurality of tables, each having a CPU 2, etc., are connected to a network 14 and then to a central file server 16.

The file server 16 may be connected to a plurality of gaming tables of various types, to slot or AWP machines, and may incorporate a database containing player information related to the player via the loyalty card identifier. This may include historical information on the players gaming activity and also more uniquely personal information such as a player's date of birth. The data base may also include data related to the player's play and value to the casino such as by storing and updating a player "point" tally, theoretical win profile (TWP) or the like. This data can be accessed through the server 16 and finding the player's file which is addressable through use of the player's loyalty card 50.

A secondary game processor file server 18 runs the secondary game, although the game may be run on the central server 16.

Also, it should be appreciated that although the network described is well suited to a single casino, the network may extend over several casinos. It may be necessary or desirable to ensure that player information cannot be exchanged between casinos, but the secondary game can be operated with suitable security.

Associated with each server is a monitor 17 and data input means (not shown) to enable personnel to access the data base and control, monitor and modify the operations.

Similar game apparatus is described in W099/42186 and the contents of that specification are incorporated herein by reference.

Referring to Figure 2, a method of operating the secondary game will be described. At step S1 a secondary game cycle is begun. At step S2, game entries are

collated via the main server 16 and the CPU 2 on each table which is ready to participate in the secondary game. (see step S9 below). A player is identified by his position (vide hereinafter). This is most readily achieved by means of the player activating a participation fee acceptor or communicator at his location. Other systems are possible, such as a dealer entering a position and player identification such as loyalty card details.

Additionally, the participant may be identified by other active or passive means such as video capture of the participant's identity, e.g. by security video camera, or by the participant carrying a transponder device which identifies the participant when they lodge a participation fee.

At step S3 a first game algorithm is run to determine whether a prize or other pay-out will be awarded. At step S4, a second game algorithm is run to determine which player (e.g. participant, participant image, position) is the winner. At step S5 the outcome of step S3 is displayed, and at step S6 the outcome of step S6 is displayed at the relevant participation fee 4, and/or the display 12. Display 12 may operate to display step 5 even if there is no winner at that particular table. Clearly, if step S3 produces no pay-out, step S6 is undesirable. Thus it may be preferred that the outcome of step S4, i.e. "the winner", is displayed first, followed by the outcome of step S3, i.e. "no pay-out". The first game algorithm may be configured so that there is always a winner - for example a refund of a participation fee or an award of player loyalty or bonus points.

Referring to figure 3, this shows the procedure at a gaming table, such as a roulette or blackjack table.

At step S7, the CPU 2 is triggered by the dealer, via keypad 8, to indicate that a primary game cycle is beginning e.g. the dealer is beginning a new hand or coup. CPU 2 activates the acceptors 4 at step S8, at step S9 the dealer indicates to the CPU 2 via keypad 8 that no more participation fees on the secondary game are to be accepted. After this time CPU 2 will not actuate an acceptor 4 to indicate acceptance of a bet. At step S10, the CPU2 is interrogated by the central server 16 to determine if the table is ready to participate in the secondary game and, if so, to collect the game entries and

loyalty card details for the entrants. It will be appreciated that CPU2 may simply transmit the information to server 16 as soon as it receives the signal from the dealer.

Simultaneously, in a pre-determined time period providing the time necessary to acquire entries into the secondary game, the central server 16 obtains or receives information from other CPUs 2 and, at the end of the time slot, is ready to run the secondary game (step S3 et. seq.). The time period required at step S2 depends on the anticipated length of the primary games, and the number of tables connected to the system, and may be varied accordingly.

It will be appreciated the secondary game needs to operate steps S1 through to S4 in sufficient time to be ready to display the results, steps S5 and S6, at each participating table at, or near, the end of the primary game coup being played at that table. This speed of operation is achievable over a local area network, but can also be achieved over a wide area network, linking several casinos, with appropriate communication links.

The outcome of the secondary game is transmitted to CPU2, which then displays the results, steps S5 and S6, when the dealer signals CPU2, via key pad 8, that the primary game is at an end. This ensures that a player of the primary game is not distracted by the outcome of the secondary game while the primary game is being played.

To select an outcome for the secondary game (as well as a prize to be awarded, if any) various techniques may be used. For example, a first algorithm, based upon that used for a random number generator from a slot machine having reels and indicia may be used to select hands for a video Poker game. In this way, the player and the casino operator will be familiar with the game. It is possible to determine with good accuracy the pay-out expected of such a game. Some other algorithm can be used, but it is always desirable that the outcome, that is the probability of a win, be predictable over a period of time of payouts both as to frequency and amount. Thus the secondary game may operate like a virtual slot machine to randomly select an outcome and a prize.

The casino may be given the option of tailoring the game to give a particular frequency of pay-outs. For example, it may be desirable to ensure frequent pay-outs of a small amount - almost every coup; a relatively large amount once per hour, and a

jackpot pay-out once per night or per week. By adjusting the parameters of the "virtual" slot machine, frequency and payouts can be adjusted.

When the game is based on a simple mathematical algorithm as the first algorithm, instead of a known game, the result may still be demonstrated visually to players in the form of a known game, such as "spinning" slot machine reels which will come to rest at the required pay-out line. The game would be displayed such as at the display 12 or, if each acceptor 4 is a video display, at each display.

It is desirable to display the "game" of the first algorithm in action, such as the spinning slot machine reels rather than to simply display the winning or losing line in order to increase the anticipation factor for players. Additionally the participation fee acceptors may be triggered to flash when the results of the second algorithm, the player selection, are being displayed or communicated.

As indicated above, with the first algorithm the frequency and amounts of pay-outs or prizes can be designed to ensure that the house advantage is maintained.

If desired, a single algorithm or RNG or other outcome selection means may be used to select a single, secondary game, outcome for all participants in the game. Alternatively, each participant may be assigned a discrete RNG to derive an outcome for that player or a single RNG may be used to serially select individual outcomes for each participant. Still further, the participants may be grouped by location, e.g. Blackjack tables 1-4, or by some other characteristic such as the determined worth of the participants and a separate RNG assigned to each group to, for each coup of the secondary game, select an outcome. In this fashion, participants with a higher worth may have a greater chance to win larger prizes.

One function of a secondary game can be to reward frequent players, or to encourage other players. With the second algorithm for selection of the winner (or the participant if the first algorithm is to be run "second"), it is possible weight the chances of a player winning. This can be done by reference to the player loyalty card scheme which is commonly used in casinos.

In the absence of any weighting, the participating players are simply selected from by a random number generator. Each participant is uniquely identified to

the secondary game server 18. From the universe of identified participants one or more are selected to receive or share in the prize to be awarded.

One function of a secondary game can be to reward frequent players, or to encourage other players. With the second algorithm for selection of the winner (or the participant if the first algorithm is to be run "second"), it is possible weight the chances of a player winning. This can be done by reference to the player loyalty card scheme which is commonly used in casinos.

With a weighting scheme it is still necessary to ensure that all players have a chance of winning. Thus, in accordance with one aspect of the present invention, players are given additional entries in the second game algorithm according to their value measured by the loyalty scheme or their chances of being selected are otherwise enhanced.

Thus, if a player has a high loyalty card rating, or has been noted as a valuable player by the dealer, he may be given two or three additional entries in the second game algorithm, thus increasing his chances of winning.

If a list of participating players, say 100 entries, is selected from at random, then by giving a player four bonus entries his chance of winning increases from 1% to about 5%; however, the chance of another player winning is diminished only a small amount.

Another approach is to have two tier selection system. In the first selection, all players have an equal chance of selection, and several are selected. In the second, players are ranked by loyalty points or player-worth and the prize or a better prize is awarded to the higher ranking player. If it is desired to target player types more specifically, while still retaining a chance factor, players may be arranged on a distribution curve which ranks players in to groups dependent on their worth points, TWP or the like which ranks players into groups dependent on their loyalty points or ranking, and then into a position in that group. A window or line is struck through this distribution curve to select a position in each group, and a random number generator selects from those positions to find the winner.

The above winner selection processes utilised in the second algorithm will be described with reference to Figure 4.

In Figure 4, at step 1 the main server 16 (of Figure 1) has scanned the tables connected to the system via their respective CPUs 2, and has detected three players participating in the secondary game (only three is chosen to simplify depiction in the drawing). These have a table address in the format <casino number> <game> <table number> <position on the table>. Alternatively, the participant as described above may be identified by other active or passive means and, where the game is played remotely via computer, the participant may be identified by a personal identification number input by the participant, computer or processor number or the like. Thus, player 1 having code 04BJ0307 is at casino No. 4, blackjack table No. 3, player position No. 7.

In mode 1, players all have an equal chance of winning. The player locations are stored in a list or table, at step 3, and selected from by a random number generator at steps 4, 5 and 6.

In mode 2 (and also in mode 3), the dealer is required to enter the players loyalty card details (as explained above in relation to Figure 1). This information is fed to the main file server which accesses a player data base to determine at step 8 what "bonus points" to allocate to the player. At step 9 the dealer may also send additional bonus points to the main file server 16 at any time by identifying the player via his position, or via his loyalty card details at step 10. The players are ranged by their bonus points, alongside their physical location and their player ID. The casino, according to a predetermined marketing strategy, step 11, then allocates additional entries to each player, dependent on his number of bonus points, e.g. 1 extra entry for 99 to 199 bonus points, 3 extra entries for 200 to 399. The player entries are then "tabulated" as at step 13, and entries in the table are selected from by a random number generator, step 14. Thus a player having two or more entries will have a higher chance of winning than a player with one.

In mode 3, players are again assessed according to their loyalty card and wagering profile, and tabulated as at step 18. Players are then ranked according to where their bonus points place them on the casino bonus point distribution curve. They are broken into discrete groups along that curve according to the number of points attributed to them by the casino based on the loyalty card scheme, etc. as outlined

above. Thus participants with points within a predetermined range will be assigned to vertical columns in the curve. Players can then be ranked within each group:

Thus, players with between 0 and 99 points may form a first, small group, between 100 and 199 points a larger second group, and between 200 and 399 points a small third group. A row in each group is then selected, thus highlighting one player in each group, and a selection made from those players. Of course, it is possible award a player in each group. The distribution of players on the player/loyalty point curve will be bell-like as illustrated at 19. By selecting groups at points along the curve, it can be seen that players in particular groups (in this case the upper and lower groups) have a higher chance of winning, because the group size is smaller. A player will move along the curve as his number of loyalty points etc. changes. The selection may be by casting a line or window through the curve which intersects each group as shown in Fig. 4. Since the participant's location or group in the curve will change based upon the participant's activities earning points, this method is dynamic in that participant's can move from one group to another based upon their then accumulated points.

As mentioned above, the secondary game algorithms may select more than one winner for a game.

Bonus points or winning prizes may be converted to other casino currencies in any of the participating casinos. This is particularly advantageous when the casinos are linked via the internet.

Players wishing to enhance their chances of winning may be allowed to purchase more bonus points and hence "collect" more bonus tickets.

It will be appreciated that although we have referred to a secondary game, more than one secondary game could be played at a table or slot, giving rise to second and third secondary games - in effect tertiary and quaternary games.

In yet another embodiment, a virtual or displayed slot machine may be provided which includes a plurality of reels, indicia and sufficient paylines to include the secondary game participants. For example, if the secondary game is divided into groups of 14 possible participants, the slot machine may be configured to have 14 paylines, horizontal, diagonal, reflecting or the like. Each participant enables a separate payline. The machine produces an outcome and prize for each player based upon the

combination of indicia at each participant's payline. The participants may share in any awards or each player may be awarded a separate award for each winning combination. The slot machine may be displayed at display 12 for the players to see the enabling of paylines. By providing the secondary game and method according to the present invention, players can participate while playing their favourite table or slot machine game. A player at a slot machine would be provided with the opportunity to participate by indicating at a window on the machine display or at a related device a desire to participate and entering the fee as by inserting a token or wagering a credit. The secondary game provides for excitement in that participants will be anticipating winning outcomes from the secondary game even though they may be losing at the primary game.

CLAIMS:

1. A method of operating a secondary game alongside a primary game or games, in which the outcome of the secondary game is independent of the outcome of the primary game or games, and in which in a secondary game cycle a first determination is made to determine whether a prize will be awarded and the amount of the prize, and a second determination is made to determine the or a winner of the prize among participants in the secondary game.
2. A method as claimed in claim 1, in which the first determination is made in accordance with an algorithm based on random chance.
3. A method as claimed in claim 2, wherein the first algorithm is based on a slot machine type game in which random behaviour of a notional reel or reels selects a pre-determined prize or payout from a look-up table.
4. A method as claimed in claim 1, 2 or 3 wherein, in the second determination, a winner is selected at random from the participants in the secondary game cycle.
5. A method as claimed in claim 1, 2 or 3, comprising the steps of allocating to participants in the secondary game a weighting factor based on a criterion personal to the participant, the chance of a participant being determined as the or a winner of the prize being related to the weighting factor..
6. A method as claimed in claim 5 wherein the criterion is a factor based on participants gaming history, such as games played, amount wagered.
7. A method as claimed in claim 5 or 6, wherein participants are allocated a number of player entries, not less than one, in accordance with the weighting factor; and

the entries are given equal weight during the second determination, thereby increasing the chance of selection for a participant in accordance with the number of entries.

8. A method as claimed in claim 5, wherein participants are grouped according to their individual weighting factors, and a selection is made from one or more of the groups.

9. A method as claimed in any preceding claim, in which the second algorithm selects a number of winners per secondary game cycle, the number being related to the number of participants or participating tables in the secondary game cycle.

10. A method as claimed in any one of claims 1 to 9, in which the second algorithm selects a number of winners per secondary game cycle, the number being related to the number of participants or participating tables in the secondary game.

11. A method as claimed in any preceding claims, in which the first algorithm determines a single prize per secondary game cycle.

12. A method as claimed in any one of claims 1 to 10, in which the first algorithm determines a number of prizes per secondary game cycle, dependent on the number of participants or participating tables.

13. Apparatus for playing a secondary game in a casino, the apparatus comprising:
a gaming station at which the or a primary game is played by a number of participants;

means at the gaming station for a participant to indicate participation in a cycle of the secondary game;

means for determining the number of participants in a cycle of the secondary game;

means for distinguishing between the participants in the secondary game cycle;

means for determining in accordance with a first algorithm, which is independent of the primary game, whether a payout will be awarded in the secondary game cycle and/or the value of the payout; and

means for determining in accordance with a second algorithm which participant will be awarded the payout (if any).

14. Apparatus as claimed in claim 13, in which the second algorithm determines a winner of the prize independently of the outcome of the primary game.

15. Apparatus as claimed in claim 13 or 14, in which the gaming station is or includes one or more of a roulette table, a card game table and a slot machine.

16. A method for operating a secondary game to be played along with and independent of a primary game, comprising:

each participant entering the secondary game, said secondary game closed to additional participants at a selected time, each entry providing a chance to obtain an award from the play of the secondary game;

identifying each participant in the secondary game at closure, said participants defining a universe of players participating in the secondary game;

for the secondary game, selecting a winning or losing outcome;

if the outcome is a winning outcome, selecting a prize to award and at least one participant from the universe of participants to award the prize to.

17. The method of claim 16 wherein the selection of a winning or losing outcome is according to a first criteria and the selection of the participant(s) is according to a different, second, criteria.

18. The method of claim 17 wherein said first criteria consists of using a random number generator to select an outcome from a predetermined field of winning and losing outcomes.

19. The method of claim 18 wherein said selection of participant(s) to be awarded a prize includes assigning an identifier to each participant, said identifiers defining said universe of participants and using a random number generator to select at least one identifier.
20. The method of claim 19 including associating with each participant a weighting factor to provide for each participant one or more chances to win an award.
21. The method of claim 20 including determining for each participant a worth factor and providing a weighing factor related to said worth factor.
22. The method of claim 21 including defining player worth groupings and assigning each participant to a group, each group to include players having a range of player worths, and selecting at least one player from each group to be awarded a prize.
23. The method of claim 16 including for each participant independently selecting a winning or losing outcome and if a winning outcome is selected an award.
24. The method of claim 23 including randomly selecting the outcome and award.
25. The method of claim 24 including using a random number generator to select an outcome from a predetermined field of winning and losing outcomes, each outcome having a predetermined probability of occurring.
26. The method of claim 25 including determining for each participant a worth factor and increasing the participant's chances to obtain a winning outcome based upon said worth.
27. The method of claim 26 including selecting multiple outcomes based upon the determined worth.

28. The method of claim 27 wherein the random number generator is embodied as a slot machine including said random number generator and having a plurality of reels with indicia displayed on said reels to display the outcome at a payline.

29. The method of claim 28 including providing a plurality of paylines the number of which is related to the player's worth.

30. The method of claim 28 including providing selection of two or more outcomes based upon the player's worth.

31. The method of claim 16 including providing a slot machine having for each participant one or more paylines and adapted to randomly select and display a winning or losing outcome at each payline and awarding to the player for each winning payline an award.

32. A system for playing a secondary game to be played along with and independent of a primary game comprising:

a secondary game processor;

at each primary game means linked to the game processor for a player to register an entry into the secondary game, said game processor in response to sensing an entry storing data to identify the participant in the secondary game;

means for the game processor to issue a signal to close the secondary game to receiving additional participants may enter the game;

said secondary game processor including means, upon issuing said closing signal, for selecting an outcome for the game and an award an means from said participant identification data at least one player to receive said award.

33. A system for playing a secondary game to be played along with and independent of a primary game in a casino environment including a data base storing data related to player worth and player identification means for the player to identify themselves

during casino play and means for re-writing said player worth based upon said identification and casino play, the system comprising:

a secondary game processor;

at each primary game means linked to the game processor for a player to register an entry into the secondary game, said game processor in response to sensing an entry storing data to identify the participant in the secondary game;

means for the game processor to issue a signal to close the secondary game to receiving additional participants may enter the game;

said secondary game processor including means, upon issuing said closing signal, for selecting an outcome for the game and an award an means from said participant identification data at least one player to receive said award.

34. The system of claim 32 further including said game processor adapted to access said player worth data base in response to a participant to access said player worth data for each participant and said participant selection means adapted to weigh selection or a participant in favor of those participants having higher worths.

35. Apparatus for operating a secondary game alongside a primary game or games, in which the outcome of the secondary game is independent of the outcome of the primary game or games, including means to make a first determination, in a secondary game cycle, of the amount of the prize, and means to make a second determination of the or a winner of the prize among participants in the secondary game.

36. Apparatus as claimed in claim 35, in which means to make the first determination includes a first algorithm based on random chance.

37. Apparatus as claimed in claim 36, wherein the algorithm is based on a slot machine type game in which random behaviour of a notional reel or reels selects a pre-determined prize or payout from a look-up table.

38. A method as claimed in claim 35, 36 or 37 wherein means for making the second determination includes a random number generator.

39. Apparatus as claimed in claim 35, 36 or 37, including means for allocating to participants in the secondary game a weighting factor based on a criterion personal to the participant, and means to determined the or a winner of the prize dependent on the weighting factor.

40. Apparatus as claimed in claim 39 wherein the criterion is a factor based on participants gaming history, such as games played, amount wagered.

41. A method as claimed in claim 39 or 40, including means to allocate participants a number of player entries, not less than one, in accordance with the weighting factor; and the entries are given equal weight during the second determination, thereby increasing the chance of selection for a participant in accordance with the number of entries.

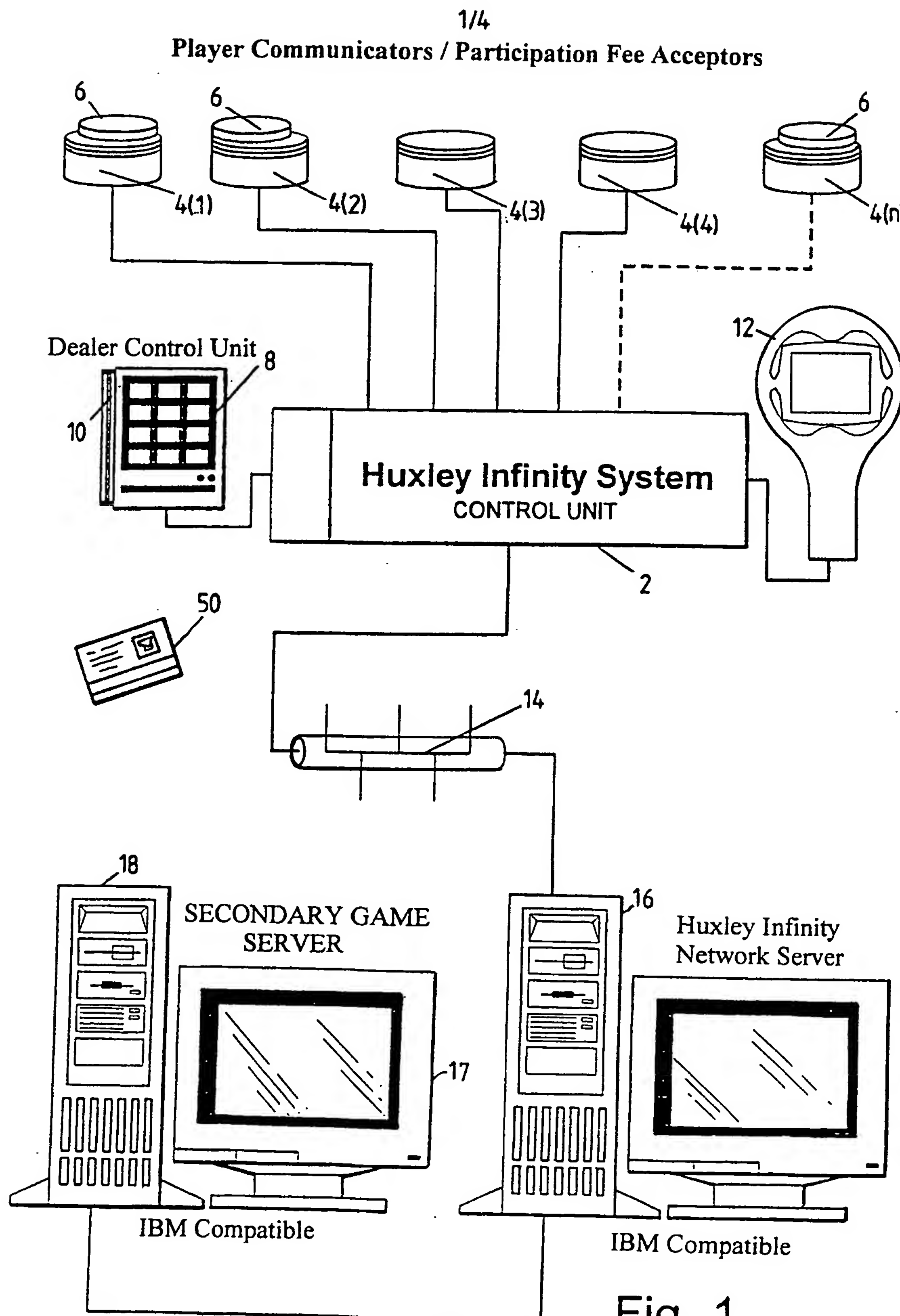
42. Apparatus as claimed in claim 39, including means to group participants according to their individual weighting factors, and means to make a selection from one or more of the groups.

43. Apparatus claimed in any one of claims 35 to 42, in which the means to select a winner selects a number of winners per secondary game cycle, the number being related to the number of participants or participating tables in the secondary game cycle.

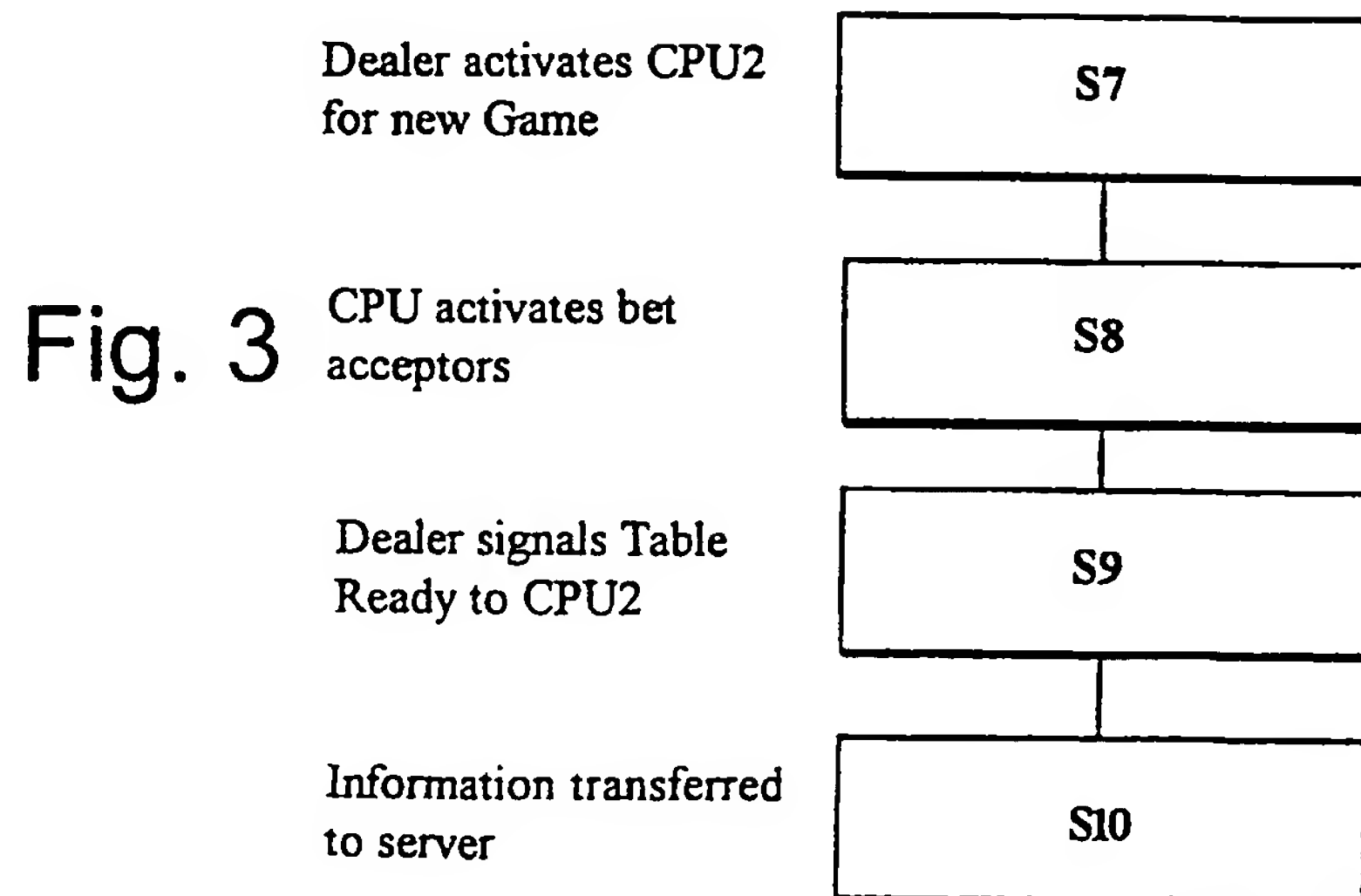
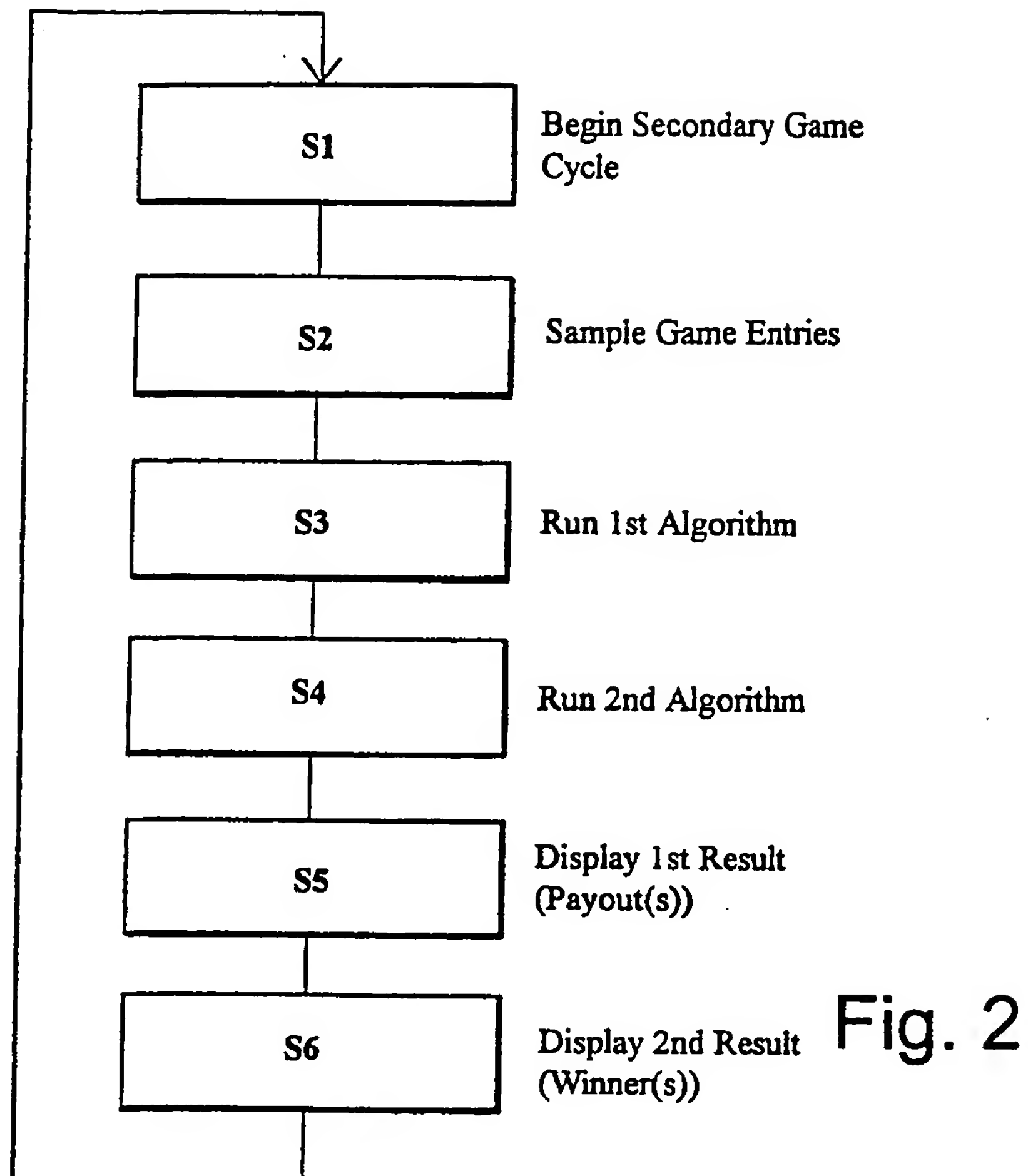
44. Apparatus as claimed in any one of claims 35 to 43, in which the means to select a winner selects a number of winners per secondary game cycle, the number being related to the number of participants or participating tables in the secondary game.

45. Apparatus as claimed in any one of claims 35 to 44, in which the means for making a first determination determines a single prize per secondary game cycle.

46. Apparatus as claimed in any one of claims 35 to 44, in which the means for making a first determination determines a number of prizes per secondary game cycle, dependent on the number of participants or participating tables.

**Fig. 1**

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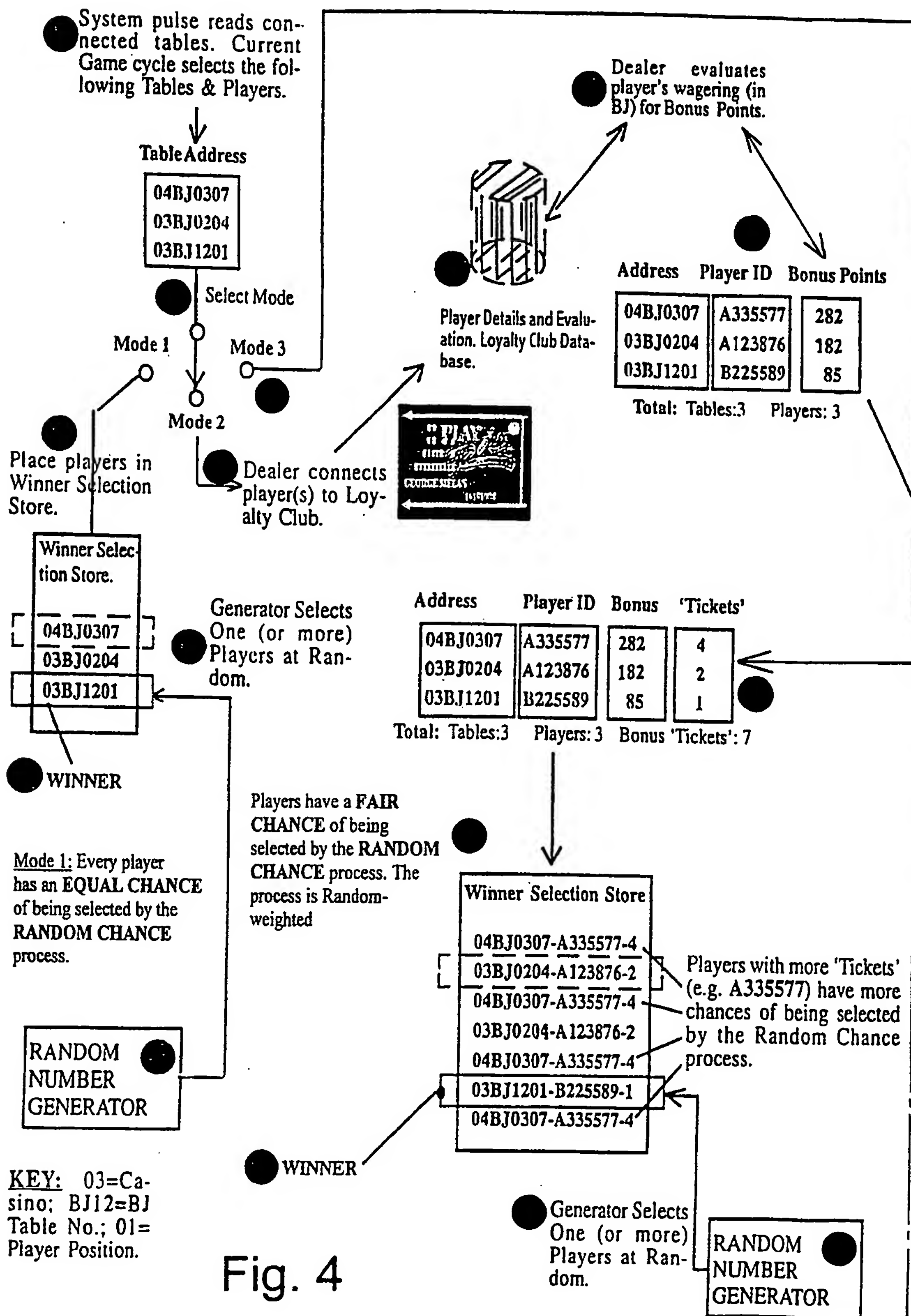


Fig. 4

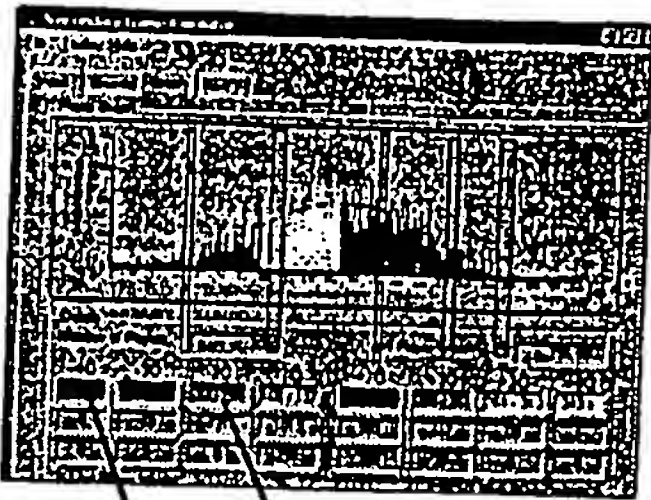
Example: Primary Game: e.g. Blackjack. Secondary Game: e.g. Slot Machine.

The first steps are the same as for Mode 2 i.e.

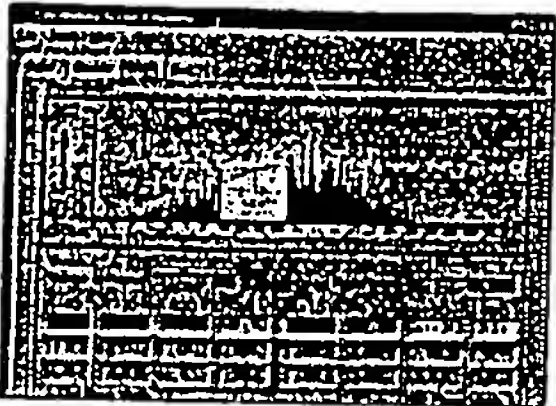
Selection Process of Winners

Address	Player ID	Bonus Points
04BJ0307	A335577	282
03BJ0204	A123876	182
03BJ1201	B225589	85
Total: Tables:3		Players: 3

Fig. 4 (cont'd)



A 'Grid' or 'Mask' superimposed on the Bonus Distribution curve provides for 'fixed-width windows' that display the categories of the winners (Column and Row).



marketing strategy. The Normal plot above shows the Player-worth distribution.

Column 3		
A335577	B225589	
B445566	B245785	
	C123678	A123876
		B456743
Row 10		

Winner.

As the players increase their Bonus points the players move from Row to Column thus 'Window' Column3/ Row10 will display different players.

Select One (or more) Players at Random. 'Windows' are fixed over a wide range of Bonus categories.

RANDOM NUMBER GENERATOR

INTERNATIONAL SEARCH REPORT

Int. l. Application No

PCT/GB 00/00160

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A63F3/00 A63F13/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A63F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 20605 A (SHUFFLE MASTER) 12 June 1997 (1997-06-12) abstract page 7, line 3 -page 10, line 25 page 30, line 25 -page 31, line 5 claims 1,2,9-13 ---	13-15, 32-35
A	US 4 861 041 A (JONES ET AL.) 29 August 1989 (1989-08-29) cited in the application the whole document ---	13,32-35
A	WO 96 11730 A (HUARD ET AL.) 25 April 1996 (1996-04-25) cited in the application the whole document ---	13,32-35

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- "&" document member of the same patent family

Date of the actual completion of the international search

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	<p>WO 97 18868 A (GAUDIOSO) 29 May 1997 (1997-05-29) page 2, line 21 - line 27 claims 1,2,9</p> <p>-----</p>	13,32-35

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